

*In the Matter of Nilesb Bhavsar, et al., Senior Engineer
Transportation (PS7024T) and (PS7007T),
Department of Transportation
DOP Docket Nos. 2004-1707 and 2004-1706
(Merit System Board, decided March 24, 2004)*

Nilesb Bhavsar, Rajendra Desai, Emma Gusovskaya, Charles Isiadinso, Beviekeri Laxmana, Ashok Patel, Ramesh Patel, Kamalavathan Ravishankar, and Dinesh Shah appeal the validity of the promotional examinations for Senior Engineer Transportation (PS7024T) and (PS7007T), Department of Transportation. These appeals have been consolidated due to the common issues presented in each case.

The subject promotional examinations had a closing date of January 21, 2003. A multiple-choice examination was conducted on May 29, 2003. A total of 60 employees applied for the PS7024T examination that resulted in an employment roster of 28 eligibles with an expiration date of October 22, 2006. It is noted that 31 candidates failed this examination. A total of 15 employees applied for the PS7007T examination that resulted in an employment roster of 2 eligibles with an expiration date of October 22, 2006. It is noted that 9 candidates failed this examination.

On appeal, the appellants state that Book A of the examination utilized the same 65 questions for several different titles, including Senior Engineer (multiple variants), Principal Engineer (multiple variants), Engineer Specifications, Transportation, and Project Engineer. They state that Senior Engineers do not supervise employees and only perform technical work. The appellants assert that Book A contained a combination of various types of questions, such as scheduling, that are managerial and supervisory in nature. Moreover, they state that none of the questions in Book A examined technical ability and that portions appear thereof to be an arbitrary guessing game. The appellants question the rationale behind utilizing this portion of the examination when Senior Engineers are not managerial or supervisory titles. They also question how they can be expected to pass this examination in the future when the material on which they are being evaluated has little or nothing to do with the titles for which they are being tested. Further, they state that Book A had more than double the questions of the technical portion of the examination (Book B). However, they contend that to perform their job responsibilities of a Senior Engineer more efficiently and more skillfully, they need to have more technical knowledge than administrative knowledge. Thus, the appellants argue that their success in the examination process is being judged by their performance on the administrative portion (Book A) alone, and that their technical

knowledge should have an equal or greater weighting for the overall examination.

The appellants also state that time provided to complete Book B (technical portion) of the examination was sufficient, but not enough time was provided to complete Book A. They argue that most of the questions in Book A were long and involved decision making. Appellants state that candidates must read a lot which takes time, in order to answer the questions. This resulted in their answering the questions quickly, without giving thought to what is the best answer. In this regard, the appellants note that English is not their first language and, thus, it takes them longer to read and understand the questions as well as the answers. They also assert that over 50% of the candidates who participated in the examination failed and that some units only had an 11% passing rate.

CONCLUSION

Initially, it is noted that a job analysis was conducted with a panel of Subject Matter Experts (SMEs), individuals who are most familiar with the duties of the position of Senior Engineer, Transportation. The results of this analysis identified the underlying knowledge, skills and abilities (KSAs) needed in order to successfully perform the duties of the title. It was determined that a two-part multiple-choice examination which measured the identified KSAs was a psychometrically appropriate test mode for the subject title. The questions on the examination were created to test the KSAs. It was determined that interpreting rules and regulations, interpersonal relations, analysis of information and data, scheduling, report writing, supervision, and technical and engineering principles were areas to be examined. Technical and engineering principles were examined in Book B of the examination and the other six areas were examined in Book A of the examination. Candidates for this examination were required to achieve a minimum cumulative raw score of 45 in order to achieve a passing score.

With respect to the questions in Book A, the SMEs specifically determined that the ability to apply techniques used in the analysis and interpretation of rules and regulations was an important worker characteristic for incumbents in this title. The job analysis specifically indicated that incumbents in the title are required to have a thorough knowledge of applying NJDOT, State, and Federal policies, procedures and regulations in delivery of the work program. As such, questions 1 through 10 in Book A were designed to examine ability in this area. Questions 11 through 20 were designed to examine candidate knowledge and ability with respect to interpersonal relations. As indicated in both the job analysis for this examination and the job specification for Senior Engineer,

Transportation, incumbents in the title do such things as act as a lead worker, provide job guidance and train new or subordinate personnel, and investigate complaints and inquiries from property owners, citizens and public officials. Thus, since incumbents in the title perform duties that involve these types of interactions, it is appropriate to examine interpersonal relations.

Questions 21 through 30 were designed to evaluate the candidate's ability to analyze information and data. Clearly, since incumbents in the title take the lead in or perform independent work in the complex engineering phases of survey, study, design, investigation, construction or inspection of transportation systems, the ability to analyze information and data is relevant. In the matter at hand, questions 21 through 30 required candidates to utilize information contained in a chart to answer the series of questions. The chart was a summary of court cases that included court dates, charge dates, names of defendants, charges and relevant statute, and ultimate sentence. The questions required applicants to extract information from the chart to answer such questions as "for which court date are only three cases scheduled?" Although the questions did not utilize engineering terms, the questions clearly evaluated candidate ability to analyze information and data. Indeed, the instructions specifically informed candidates that this portion of the test was designed to evaluate their ability to interpret and analyze data and that no previous knowledge of the subject matter was required to answer any of the questions.

The SMEs specifically determined that incumbents in the Senior Engineer Transportation title are required to schedule contractors' work, design training schedules, plan and implement work programs, and assign and instruct employees. As such, questions 31 through 40 were designed to examine candidate ability to organize and schedule a workday and workweek. Further, the SMEs determined that the ability to prepare technically sound, accurate, and clear engineering reports, containing findings, conclusions, and recommendations, was an important characteristic for incumbents in the title under test. Thus, questions 41 through 50 were designed to measure candidate ability in this area.

Appellants argue that incumbents in the Senior Engineer Transportation title do not supervise employees and only perform technical work. A review of the job specification for Senior Engineer Transportation indicates that supervisory duties are permissive for incumbents in that title. Specifically, the job specification notes that incumbents working in Construction-Maintenance Service "may supervise the work of field and office forces in various types of surveys, studies, and inspection related to highway and bridge maintenance projects." Incumbents employed in Design Services

“may supervise field parties involved in various types of surveys and construction work.” Incumbents in Traffic and Local Road Design “give appropriate assignments and instructions to field inspection forces or office engineering personnel and may supervise the performance of their work.” Moreover, the job analysis prepared for this specific examination indicated that supervisory skills were one of the areas to be tested in this examination. Thus, it was proper to include questions 51 through 65 that were designed to evaluate candidate supervisory ability. Therefore, notwithstanding the appellants’ argument to the contrary, the SMEs determined that all of the questions in Book A of the examination were necessary to examine the underlying KSAs required by incumbents to successfully perform the duties of the position under examination.

With respect to the time factor, the time allocation for this examination was based on the difficulty level of the items as well as the performance required for the position. The SMEs determined that candidates should be allotted one hour and forty minutes to complete the 65 questions in Book A of the examination. Thus, candidates had approximately one minute and thirty seconds to answer each of the questions. As the appellants correctly point out, each of the sub-tests involved reading stimulus material in order to answer the question. Candidates were required to demonstrate that they could evaluate the given information and utilize it to determine the appropriate response. As indicated earlier, after an extensive job analysis in support of this examination, the SMEs determined that the areas tested were required to successfully perform the duties of the title under test. Although English is not the appellants’ first language, Department of Personnel examinations are written at a level of English consistent with the title under test. In this regard, it is noted that all titles tested in State service list as a requirement the ability to read, write, speak, understand, and communicate in English *sufficiently to perform the duties of the position*. Based on a widely accepted standard, the Flesch-Kincaid Grade Level, the readability measure of the questions in Book A was at a 10th grade (9.8) high school level. The readability measure of the questions in Book B was at an 8th (8.4) grade school level.¹ As such, candidates are tested in the basic skills and the ability to read English is a requirement of the position. See *In the Matter of Fayez Fanik*, (Merit System Board, decided April 10, 2002) and *In the Matter of Rafael DiStasio* (Merit System Board, decided September 25, 2002).

¹ Readability measures are primarily based on factors such as the number of words in the sentence and the number of letters or syllables per word. The Flesch-Kincaid Grade Level measures the average sentence length (ASL) (the number of words divided by number of sentences) plus the average number of syllables per word (ASW) (the number of syllables divided by the number of words.) Thus, the formula utilized is $(.39 \times \text{ASL}) + (11.8 \times \text{ASW}) - 15.59$.

Regarding the appellants' concerns about use of the examination booklet for other engineering titles, it is noted that the examination booklet contained tests for 21 different engineering titles. This is common in Department of Personnel examinations. Different titles covered by the examination booklet are assigned different questions to answer. In many cases, there are common areas that all titles in a given booklet must answer. For example, all candidates utilizing this test booklet were required to demonstrate their abilities in interpersonal relations, report writing, rules and regulations, scheduling, and analysis of information and data. It is also noted that an examination cannot be geared to the specific duties of a particular position or posting. The test content must fairly test all candidates who meet the requirements to be eligible to take the examination. Thus, this examination tested the duties of the title and not the duties of specific positions. As such, the test content was appropriate to the Senior Engineer Transportation title.

As to the overall failure rate for these examinations, the common areas examined utilizing Book A have been successfully utilized in the examination of other titles where similar KSAs to the title under test were required to be evaluated and the technical questions utilized in Book B were specifically developed for this examination. Thus, while the failure rate for these examinations may be reflective of the difficulty level of the test, it does not, in itself, demonstrate that the questions were flawed or that the areas examined were not relevant to the duties of the positions.

ORDER

Therefore, it is ordered that these appeals be denied.

This is the final administrative determination in this matter. Any further review should be pursued in a judicial forum.